

GENERAL CONSTRUCTION NOTES:

1. The project involves building a new addition onto an existing solid waste transfer station. Which must be kept in operation throughout the Construction, and the excavation of leachate contaminated soils from beneath a floor slab (after removal of the slab), in order to build a new floor reinforced concrete slab with adequate foundation support.
2. The Contractor shall provide a pre-engineered steel building in accordance with structural plans furnished to the Contractor. The Contractor is responsible for providing electrical and plumbing work related to the project, which has not been designed in advance for the Owner.
3. The Contractor is expected to become part of an integrated design-build team and work with the Owner and Engineers to ensure a smooth transition from the old building to the new addition, then back to the old building upon completion of all upgrades.
4. The Contractor shall be aware that the facility is an active solid waste management facility, which must be kept in operation during the execution of the work. In addition, there will be other construction projects and activities near the facility, which will require coordination to ensure all activities progress without impedence.
5. The Owner expects the Contractor to comply with all State, Federal, and Local regulations in the completion of this work. This expectation includes, but is not limited to, adherence to the rules and laws pertaining sediment and erosion control, electrical, plumbing, and building codes; Occupational Health and Safety Administration (OSHA) regulations; adherence to the project plans and specifications; and adherence to the construction schedule.
6. The Contractor is directed to the Building Notes prepared by the Structural Engineer and various notes and specifications on the general civil construction plans. The Owner will provide third-party inspections and testing by one or more local engineering firms.
7. The Contractor shall be responsible for securing the necessary building permits, including but not limited to general construction, electrical and plumbing, and spreading inspections by local agencies. The Owner will assist the Contractor in facilitating these permits.
8. The Project Engineer, in conjunction and cooperation with the Owner's representative, i.e., the Project Manager, shall have final authority on all decisions pertaining to this project. All communication on the project shall be conducted through (or copied to) the Project Engineer.

SEDIMENTATION AND EROSION CONTROL NOTES

GENERAL

1. All work shall conform to the rules and guidelines of the North Carolina sedimentation control law, as administered by the NC DENR Division of Land Resources. Prior to beginning work, a pre-construction conference shall be held with the engineer and the designated NC DENR representative (Land Quality Section).
2. Critical sedimentation control features, e.g., graded channels, basins, outlet structures, level spreaders, shall be field staked by a licensed surveyor and constructed according to plan dimensions. All work shall meet the approval of the Engineer and NC DENR inspectors. The owner/operator will obtain land disturbance permits and pay fees.
3. The plan describes temporary sedimentation and erosion control measures (silt fencing, channels and boms). All prescribed temporary measures shall be installed, e.g., channel linings or channels, silt fence, rip-rap, baffles, temporary and permanent seeding and mulching of all disturbed areas.
4. All non-paved areas disturbed during the construction shall be vegetated within 20 calendar days following completion of the disturbance. Appropriate activities for promoting vegetation growth, e.g., lime, fertilizer, and mulch, shall be applied as need to ensure no bare earth remains at the end of the project.
5. Sedimentation and erosion control measures are subject to field inspection and performance evaluation by NC DENR. If any measures are found to be inadequate, a review of the measures as constructed shall be performed to ensure adherence to the plans. Then, if needed, additional designs shall be submitted to NC DENR for review, to be supported by appropriate calculations.
6. Substantial deviations from this plan shall be reviewed by the Engineer in advance of implementing the changes and may be subject to prior to approval by NC DENR.

SEDIMENT TRAP

1. One sediment trap is prescribed behind (east of) the existing transfer station, intended to serve the new building addition and associated construction areas.
2. Construction sequence:
 - A) Install silt fence around basin and along diversion ditches
 - B) Dig basin 42'W x 84'L x 1.5'D and make perimeter berms 2.0'H
 - C) Build stone filter outlet to the following dimensions: 5'W x 8'L x 1.5'H

Note: width (W) is with the flow, length (L) is against the flow

- D) Use d50 = 12" rip-rap to build stone dam outlet (see details)
- E) Underlay all rip-rap with 12 o.s.y. non-woven geotextile
- F) Place all rip-rap stone in two interlocking layers
- G) Extend rip-rap apron min. 8' past toe of outlet
- H) Cut a notch in silt fence at outlet sized to match the rip-rap

- I) Place No. 57 gravel on upstream face of filter berm, min. 12" thick
- J) Vegetate all disturbed surfaces within 20 days of completion
- K) Clean out trap when sediment is 12" deep

SILT FENCE

1. Silt fence shall be constructed before upslope land disturbance begins.
2. All silt fence shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions that may carry small concentrated flows to the silt fence are dissipated along its length.
3. Ends of the silt fences shall be brought upslope slightly so that water ponded by the silt fence will be prevented from flowing around the ends.
4. Silt fence shall be placed on the flattest area available.
5. Where possible, vegetation shall be preserved for 5 feet (or as much as possible) upslope from the silt fence. If vegetation is removed, it shall be reestablished within 7 days from the installation of the silt fence.
6. The height of the silt fence shall be a minimum of 24 inches above the Original ground surface.
7. The silt fence shall be placed in an excavated or sliced trench cut a minimum of 6 inches deep. The trench shall be made with a trencher, cable laying machine, slicing machine, or other suitable device that will ensure an adequately uniform trench depth.
8. The silt fence shall be placed with the stakes on the downslope side of the geotextile. A minimum of 8 inches of geotextile must be below the ground surface. Excess material shall lie on the bottom of the 6-inch deep trench. The trench shall be backfilled and compacted on both sides of the fabric.
9. Seams between sections of silt fence shall be spliced together only at a support post with a minimum 6-in. overlap prior to driving into the ground (see details).
10. Maintenance:
 - A) Silt fence shall allow runoff to pass only as diffuse flow through the geotextile. If runoff overlaps the silt fence, flows under the fabric or around the fence ends, or in any other way allows a concentrated flow discharge, one of the following shall be performed, as appropriate:
 - 1) The layout of the silt fence shall be changed,
 - 2) Accumulated sediment shall be removed, or
 - 3) Other practices shall be installed.
 - B) Sediment deposits shall be routinely removed when the deposit reaches approximately one-half of the height of the silt fence.
 - C) Silt fences shall be inspected after each rainfall and at least daily during a prolonged rainfall. The location of existing silt fence shall be reviewed daily to ensure its proper location and effectiveness. If damaged, the silt fence shall be repaired immediately.
11. Criteria for silt fence materials:
 - A) Stakes – Only steel T-posts with a minimum length of 36 inches shall be allowed. The maximum spacing between posts shall be 10 ft. Stakes shall be driven a minimum 12 inches into the ground, where possible. If not possible, the posts shall be adequately secured to prevent overturning of the fence due to sediment/water loading.
 - B) Silt fence fabric – See below.

FABRIC PROPERTIES	VALUES	TEST METHOD
Minimum Tensile Strength	120 lbs	ASTM D 4632
Maximum Elongation at 60 lbs	50%	ASTM D 4632
Minimum Puncture Strength	50 lbs	ASTM D 4533
Minimum Tear Strength	40 lbs	ASTM D 4533
Apparent Opening Size	0.84 mm	ASTM D 4751
Minimum Permeability	1X10 ⁻² cm/sec	ASTM D 4491
UV Exposure Strength Retention	70%	ASTM G 4355

VEGETATION

Site Preparation:

1. A cultivator, chisel plow, or other implement shall be used to scarify the soil, i.e., reduce soil compaction and allow maximum infiltration. Scarification should be done whenever the soil moisture is low enough to allow the soil to crack or fracture. Scarification shall not be done on slip-prone areas where soil preparation should be limited to what is necessary for establishing vegetation.
2. The site shall be graded as needed to permit the use of conventional equipment for seeded preparation and seeding.
3. Topsoil shall be applied where needed to establish vegetation.

Seeded Preparation:

1. Lime – Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 lbs/1,000 sq. ft. or 2 tons/acre.
2. Fertilizer – Fertilizer shall be applied as recommended by a soil test. In place of a soil test, fertilizer shall be applied at a rate of 25 lbs/1,000-sq. ft. or 1000 lbs/acre, with a 10–10–10 or 12–12–12 analyses.
3. The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field implement to a depth of 3 inches. On sloping land, the soil shall be worked on the contour.

Seeding Dates and Soil Conditions:

1. Seeding should be performed during March 1 to May 31 or August 1 to September 30. If seeding occurs outside of the above specified dates, additional mulch and irrigation may be required to ensure a minimum of 80% germination.
2. Tillage for seeded preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on time-specific seeding schedule.

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2. Tillage for seeded preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on time-specific seeding schedule.
3. Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder (slurry may include seed and fertilizer) on a firm, moist seedbed.

4. Where feasible, except when a cultipacker type seeder is used, the seeded should be tined following seeding operations with a cultipacker, roller, or light drag. On sloping land, seeding operations should be on the contour where feasible.
5. The addition of a "nurse" crop – quick-growing annuals (e.g., annual rye or millet) added to permanent mixtures (e.g., fescue and lespedeza) – should be used to hold the soil until the slower growing perennial species can become established.

6. Seed Types:
 - A) Temporary Seeding mixture:

Seeding dates	Species	Rate (lb/acre)
Jun. 1 – May 1	Rye (grain) and Koble lespedeza*	120 50
May 1 – Aug. 15	German millet or Small-stemmed Sudangrass	40 50
Aug. 15 – Dec. 30	Rye (grain)	120

- *Onit annual lespedeza when duration of temporary cover is not to extend beyond June.
- B) Permanent Seeding mixture:

Seeding dates	Species	Rate (lb/acre)
Sept. 1 – May 1	Service lespedeza	15
Sept. 1 – Apr. 1	Kentucky 31 Fescue	100
Apr. 15 – Jun 30	Bermuda Grass	25

Other seed mixtures may be substituted with the approval of the Engineer.

MULCHING

1. Applications of temporary seeding shall include mulch, which shall be applied during or immediately after seeding. Seeding made during optimum seeding dates on favorable, very flat soil conditions may not need mulch to achieve adequate stabilization.

2. Materials:
 - A) Straw – If straw is used, it shall be unrotted small-grain straw applied at a rate of 2 tons/acre or 90 lbs/1,000 sq. ft. (2–3 bales)
 - B) Hayseeders – If wood cellulose fiber is used, it shall be applied at 2000 lbs/acre or 46 lbs/1,000 sq. ft.
- C) Other – Other acceptable mulches include mulch matings applied according to manufacturer's recommendations or wood chips applied at 6 ton/acre.
3. Straw Mulch shall be anchored immediately to minimize loss by wind or water.

Anchoring methods:

- A) Mechanical – A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but left to a length of approximately 6 inches.
- B) Mulch Netting – Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.

- C) Synthetic Binders – Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petrosel, Terra track or equivalent may be used at rates recommended by the manufacturer.
- D) Wood-Cellulose Fiber – Wood-cellulose fiber binder shall be applied at a net dry weight of 750 lbs per acre. Wood-cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb/100 gal.

PLUMBING NOTES

A) General:

1. All work shall conform to the 2012 North Carolina Plumbing Code.
2. Contractor shall obtain local building permit (including plumbing) based on shop drawings to be submitted to the Engineer for approval in advance of beginning construction. Sufficient time must be allowed for local building inspectors to schedule inspections.
3. All water service pipe shall conform to NSF 61 and the standards listed in Table 605.3 of the 2012 North Carolina Plumbing Code for the selected pipe material. All pipe behind the meter shall be considered as service pipe.
4. All pipe on the supply side of the meter, including the hydrant and associated pipe and fittings, shall be considered as distribution pipe and shall conform to Table 605.4 of the 2012 North Carolina Plumbing Code for the selected pipe material.
5. All fittings shall conform to the standards listed in Table 605.5 of the 2012 North Carolina Plumbing Code for the selected pipe material.
6. All new and refitted piping shall be pressure tested to 60 psi, unless otherwise directed by the Engineer.
7. Piping placed beneath slabs shall be encased in a high slump concrete slurry to ensure good bedding and backfill, and separated from the base of the concrete by a minimum of 12 inches. Trenches shall be backfilled with compacted C&G stone to design subgrade after the encasement has set for 24 hours.
8. All backfill shall conform to the Earthwork Specifications.

B) Work consists of the following activities:

1. Move existing exterior hydrant and water meter from the northwest corner of existing building to northwest corner of new building as shown in the project drawings.
- This work shall be accomplished by excavating and cutting fixtures from existing distribution pipe, removing the existing distribution pipe to the new location, and retoolching the fixtures using new fittings.
2. Install new service pipe beneath future concrete slab within a trench located as shown in the project drawings. Pipe diameter and material shall match existing installation. This work shall be completed and pass inspection prior to slab installation.
3. Remove and/or preserve piping and fixtures within the existing building, specifically the hose bibb, eye wash stations (two), and service connection to office. This work shall be accomplished in the presence of the engineer; all pipe locations are not known in advance of the work. Fixtures shall be reused unless damaged beyond serviceability, whereas the Contractor shall provide replacements at no additional cost to the project. In the event that the existing piping cannot be preserved, it shall be replaced with equal or better materials.
4. There are no fire sprinklers in the existing building, nor are any anticipated in the new.
- C) All work must meet the approval of the local buildings inspections department prior to being accepted by the Engineer.
- D) All discrepancies with the anticipated conditions described in the project documents shall be brought to the Engineer's attention immediately. The Engineer shall have final authority on all decisions regarding the work.

ELECTRICAL NOTES:

A) General:

1. All work shall conform to NEC 2008 (North Carolina State Electrical Code, 2008).
2. Contractor shall obtain local building permit (including plumbing) based on shop drawings to be submitted to the Engineer for approval in advance of beginning construction. Sufficient time must be allowed for local building inspectors to schedule inspections.
3. It is anticipated that the prefabricated building manufacturer will provide the design for electrical systems. In such case, the Contractor and Manufacturer are directed to Article 545 of NEC 2008.

B) Work consists of the following activities:

1. Provide six (6) new overhead luminaires within the new tipping and loading area of the same type and luminosity as those existing in the transfer station (see layout on project drawings).
2. Provide four (4) fluorescent tube fixtures in the of the new scales bay of the same type and luminosity as those in the existing transfer station (see layout on project drawings).
3. Provide or relocate existing outdoor lighting (attached to the north end of the building) of the same type and luminosity as those existing in the transfer station.
4. Move existing wall-mounted fan on the north end of the building to a similar location on the new building.
5. Provide required wiring, conduits, switches, and breakers (using the existing distribution box) for the lights and fan.
6. Provide electrical connections as needed for scales and weight display. This work may be packaged with the scale installation.
7. Relocate main electrical feed to building as needed to accommodate outdoor pole relocation (by others). Contractor is expected to coordinate activities with Duke Energy via the Engineer.

FOR REVIEW AND BIDDING
NOT FOR CONSTRUCTION

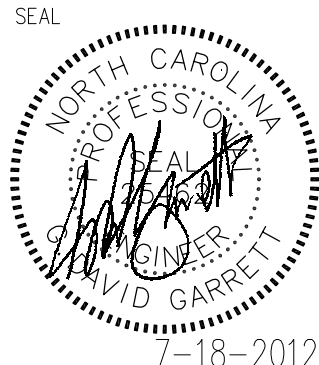
DRAWING TITLE:

GENERAL CIVIL SPECIFICATIONS
SHEET 1 OF 3

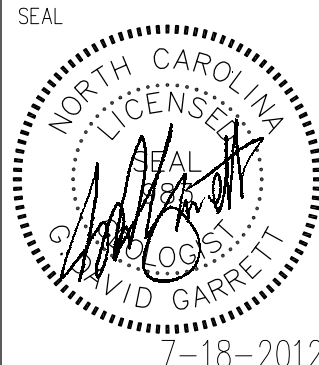
PROJECT TITLE:

RUTHERFORD COUNTY, N.C,
CDNTRAL MSW FACILITY
TRANSFER STATION UPGRADE
PERMIT #81-04T

SEAL



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